

FIG. 1A CDMA Transmitter: Block Diagram

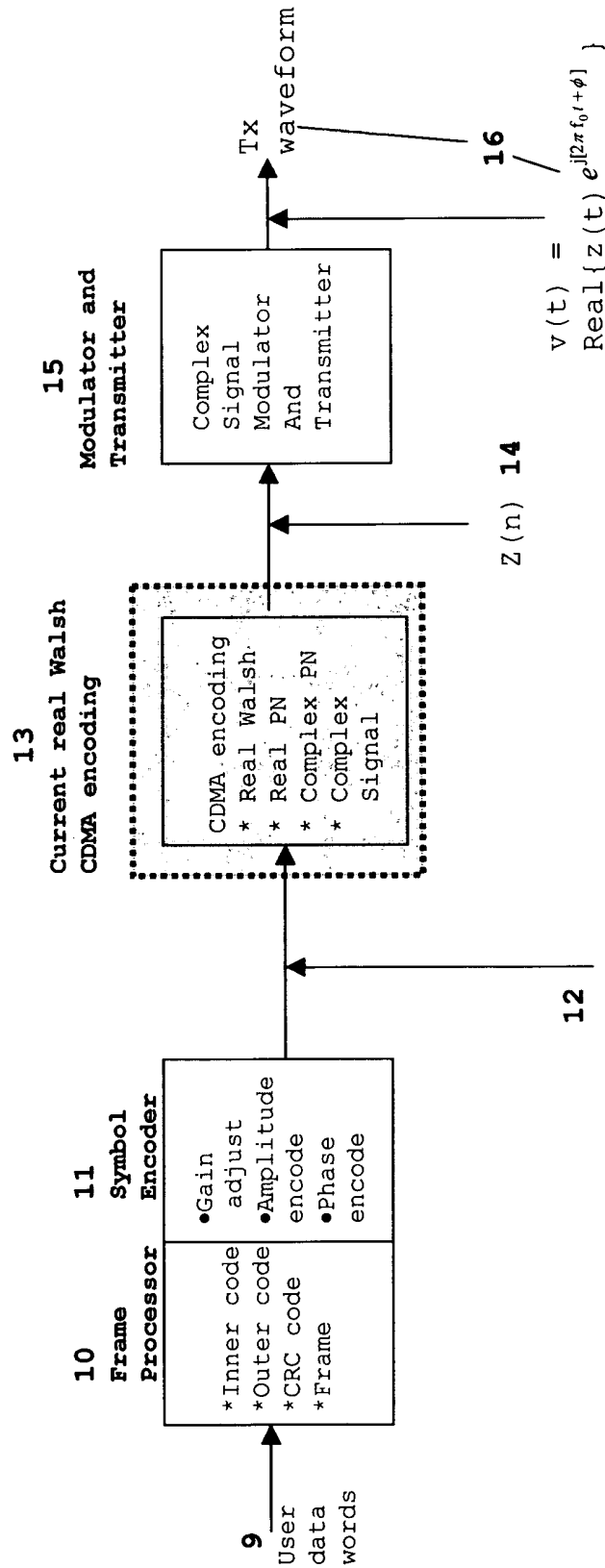


FIG.1B in the amendment drawings is added to help explain FIG. 1A.

FIG. 1B CDMA Transmitter: Cellular Application

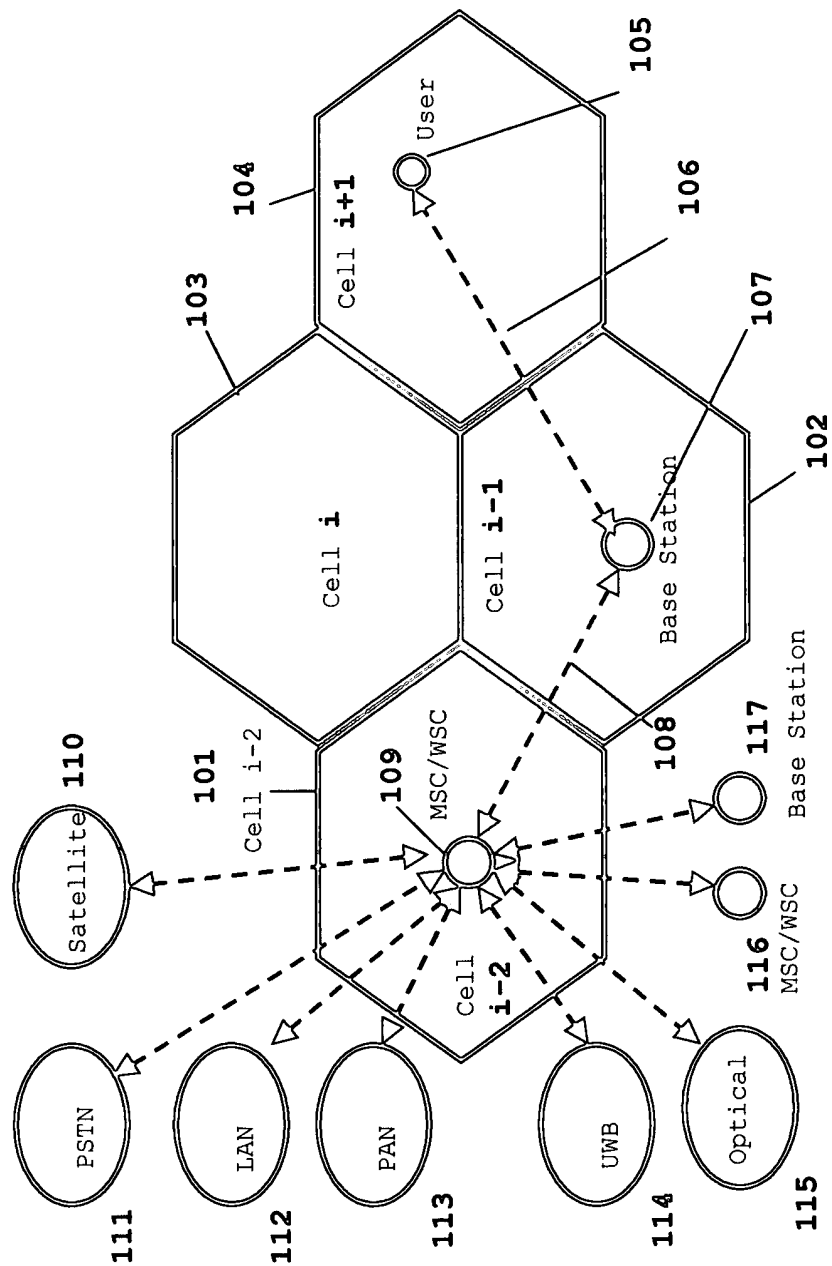


FIG.1C in the amendment drawings is added to help explain FIG. 1A.

FIG. 1C CDMA Transmitter: Cellular Implementation

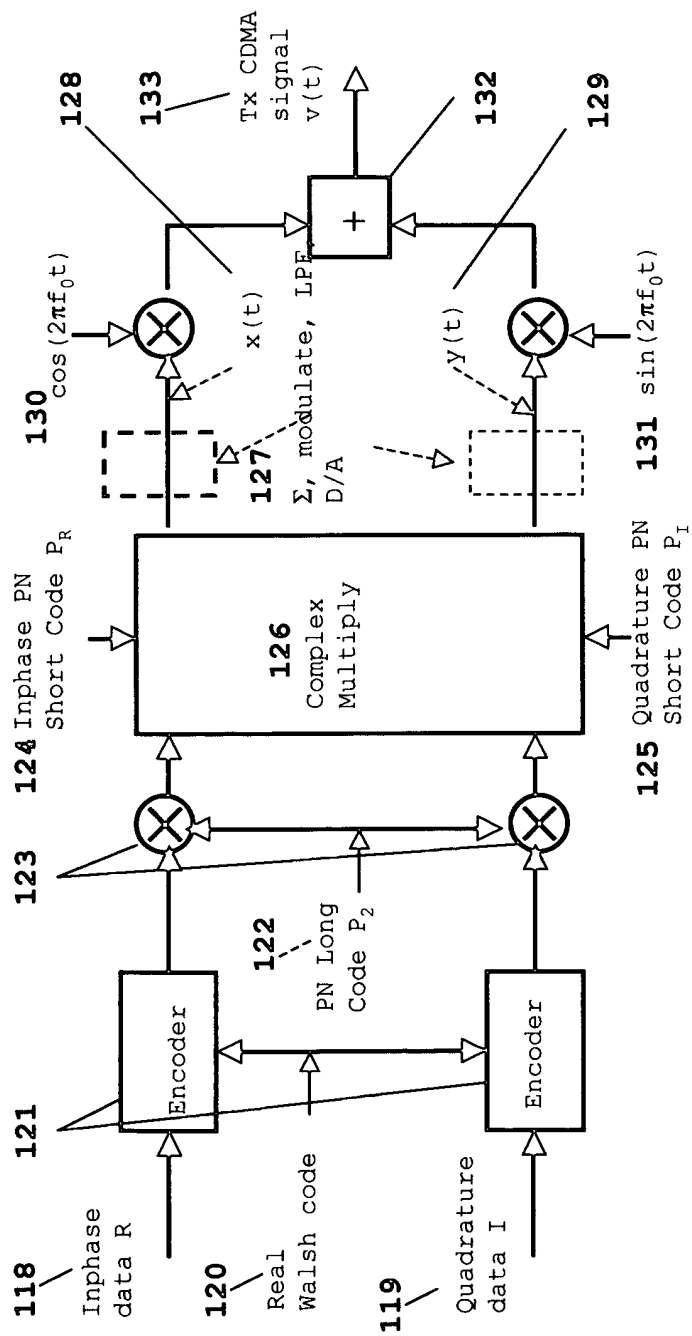


FIG. 2 in the amendment drawings is unchanged.

FIG. 2 Real Walsh CDMA Encoding Implementation

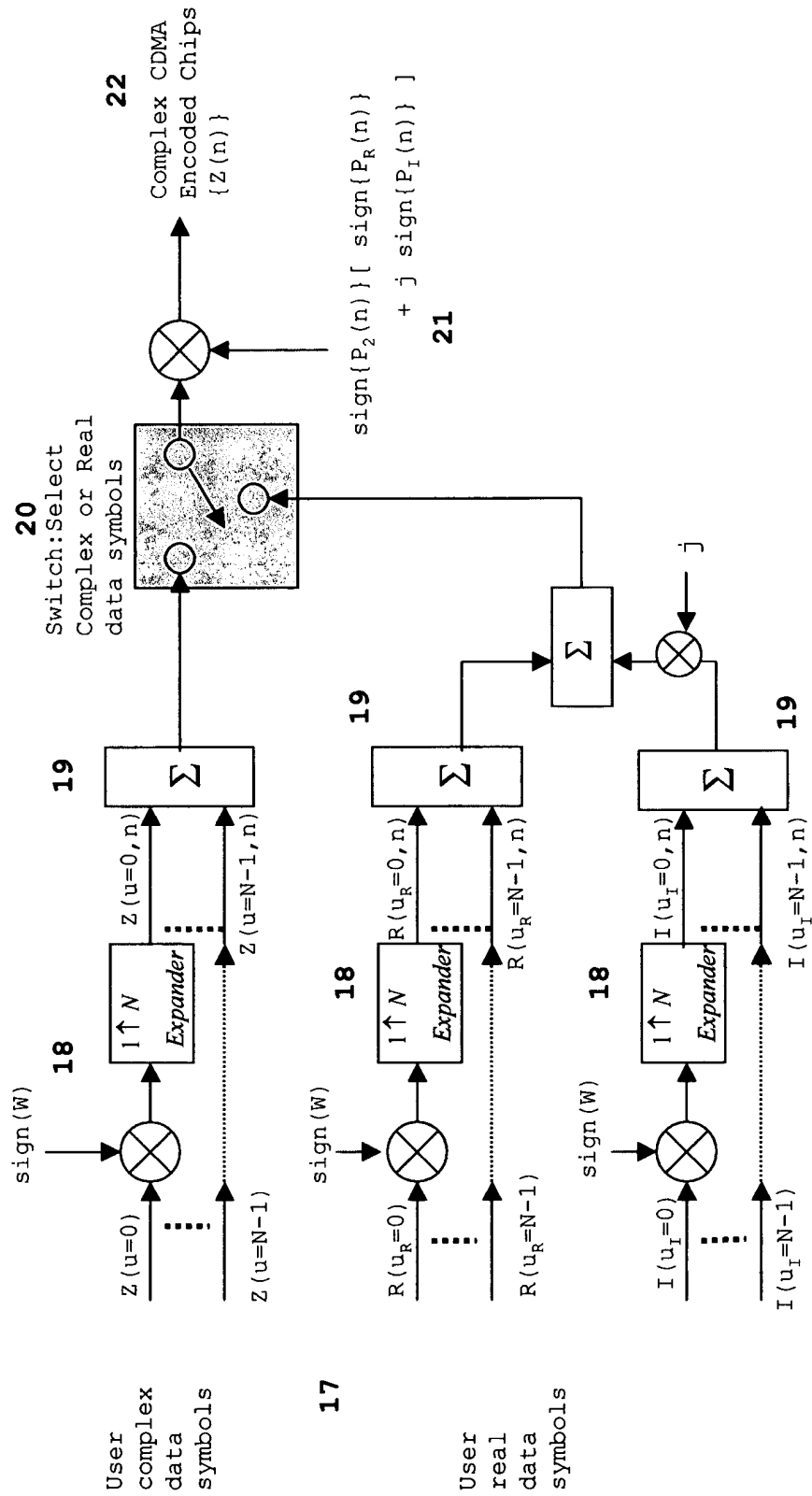


FIG.3A in the amendment drawings is FIG. 3 in the original submittal.



FIG. 3A CDMA Receiver: Block Diagram

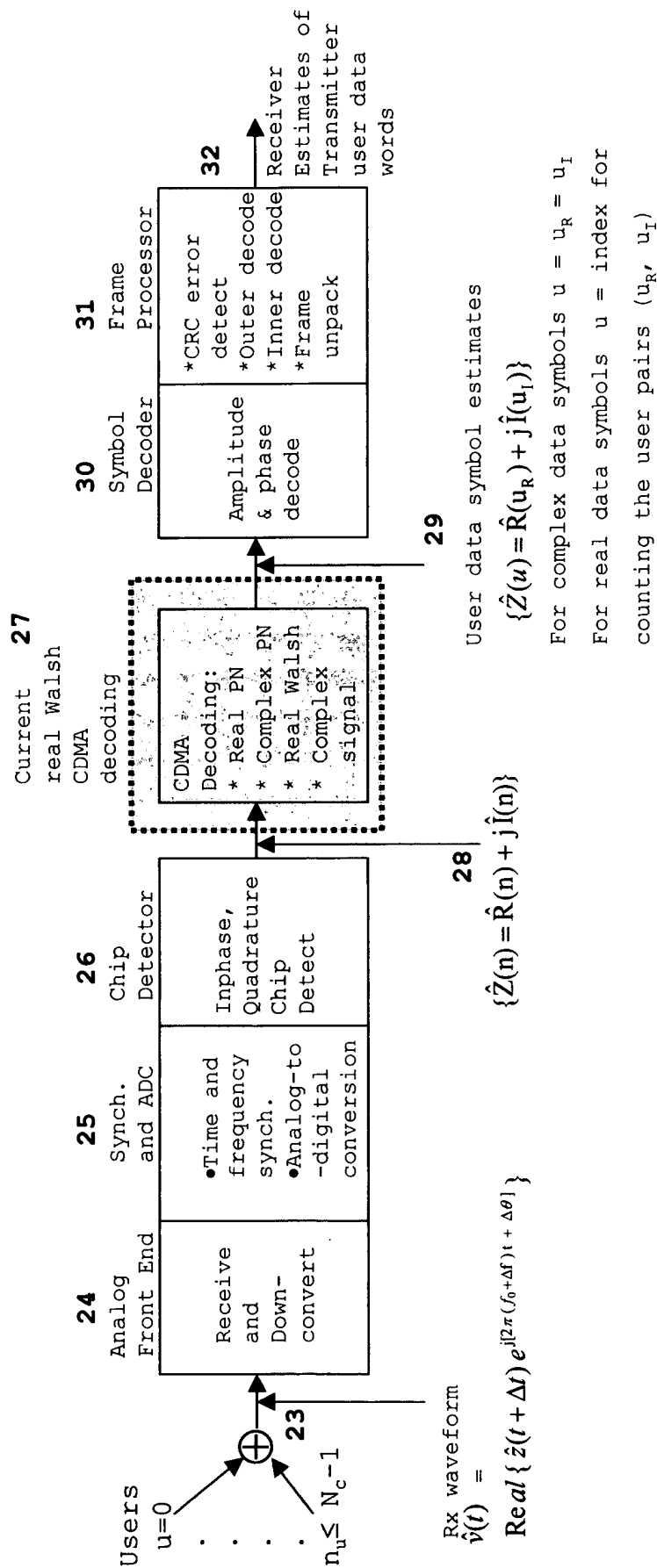


FIG. 3B in the amendment drawings is added to help explain FIG. 3A.

FIG. 3B CDMA Receiver: Cellular Implementation

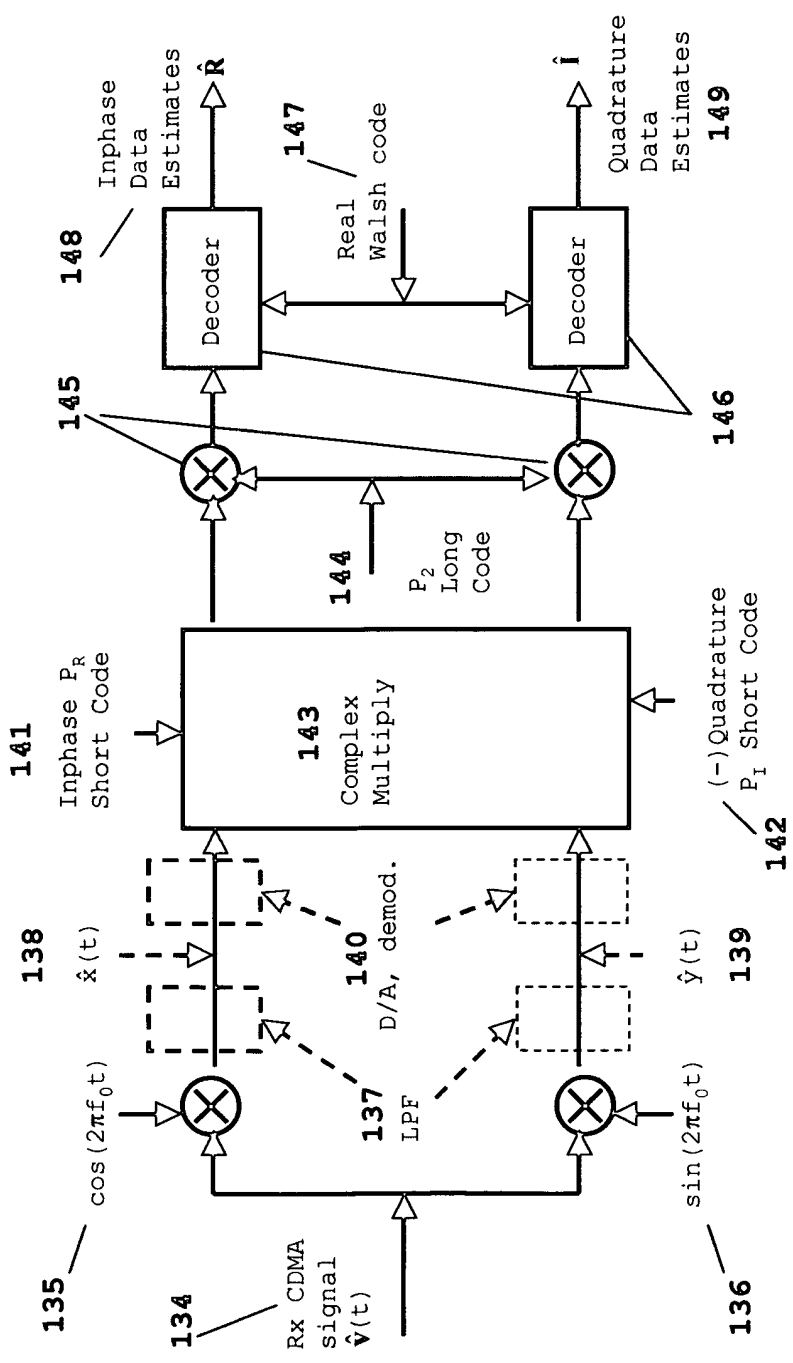


FIG. 4 in the amendment drawings is unchanged.

**FIG. 4 Real Walsh CDMA Decoding Implementation**

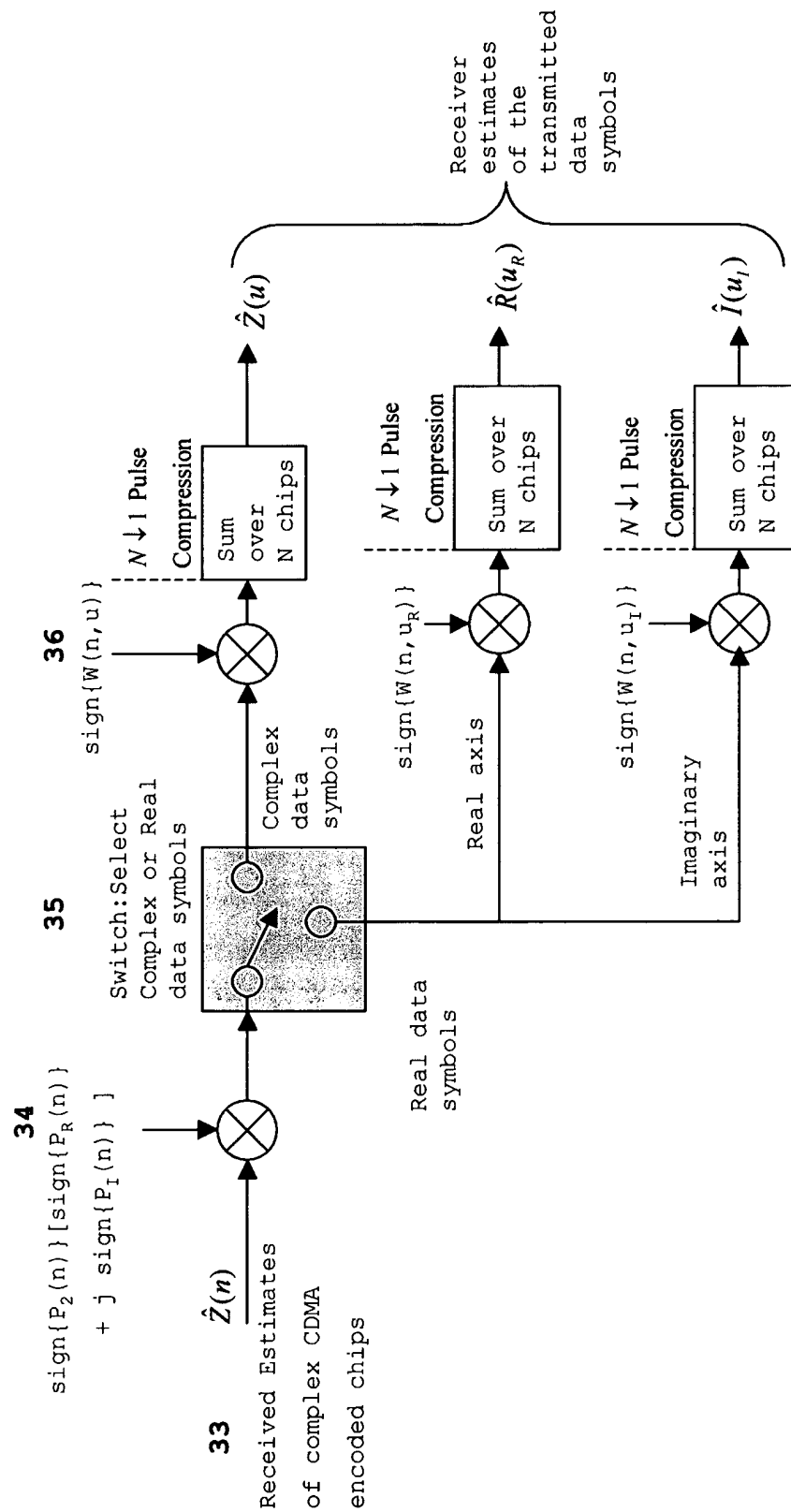


FIG. 5 in the amendment drawings is unchanged.



**FIG. 5 Correlation of Fourier Codes  
with DFT Codes for N=32**

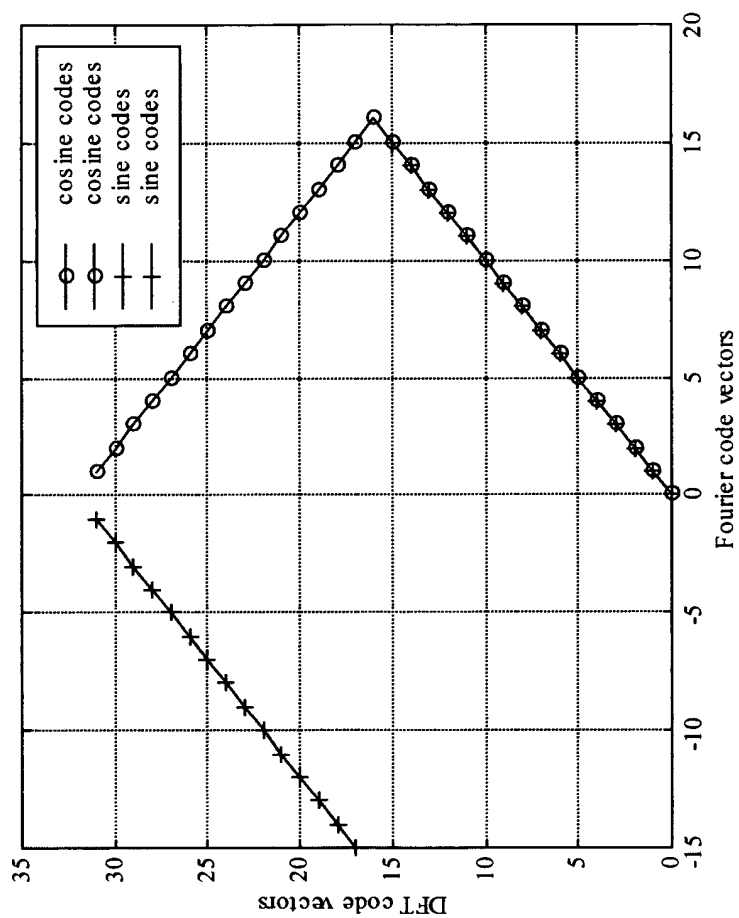


FIG.6A in the amendment drawings is FIG. 6 in the original submittal.



FIG. 6A Hybrid Walsh: CDMA Encoding Implementation

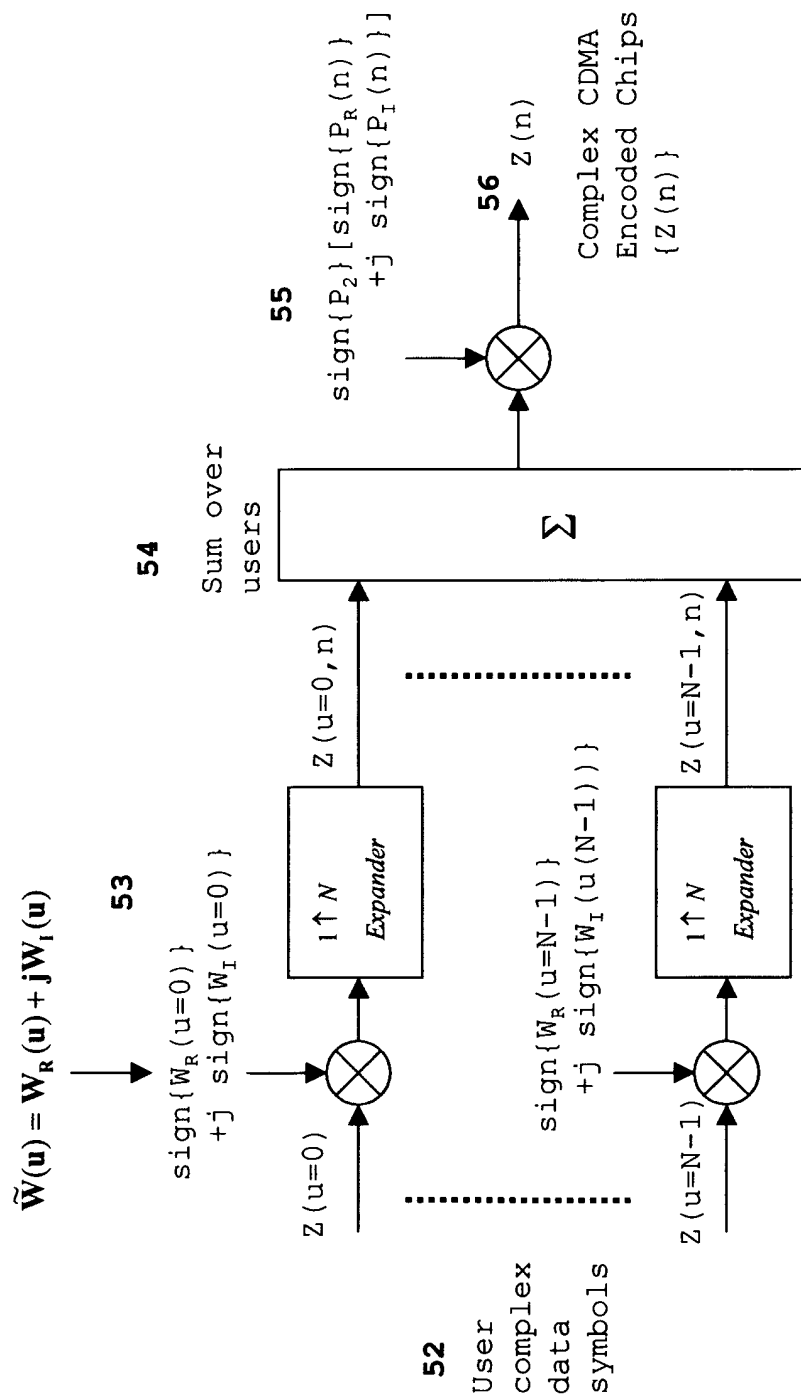


FIG. 6B in the amendment drawings is added to help explain FIG. 6A.

FIG. 6B Hybrid Walsh: Implementation Algorithm

168	Sequence index	Hybrid Walsh reordering permutation of the real Walsh code vectors	
	$u=0, 1, \dots, N-1$	Hybrid Walsh inphase (real) code vector $W_R(u)$	Hybrid Walsh quadrature (imaginary) code vector $W_I(u)$
167	$u = 0$	$W_R(u) = W(0)$	$W_I(u) = W(0)$
	$u = 1 \text{ to } (N/2-1)$	$W_R(u) = W(2i)$	$W_I(u) = W(2i-1)$
	$u = N/2$	$W_R(u) = W(N-1)$	$W_I(u) = W(N-1)$
	$u = N/2+\Delta u$ for $\Delta u=1 \text{ to } N/2-1$	$W_R(u) = W(N-1-2\Delta u)$	$W_I(u) = W(N-2\Delta u)$
			169

FIG. 6C in the amendment drawings is added to help explain FIG. 6A.

**FIG. 6C Hybrid Walsh: Implementation Algorithm  
 Based on Even and Odd Real Walsh Codes**

Sequence index	Hybrid Walsh reordering permutation of the even and odd Walsh code vectors	Hybrid Walsh quadrature (imaginary) code vector $\underline{W}_I(u)$	Hybrid Walsh inphase (real) code vector $\underline{W}_R(u)$	$\underline{W}_I(u) = \underline{W}_e(0)$ $\underline{W}_I(u) = \underline{W}_o(u)$ $\underline{W}_I(u) = \underline{W}_o(N/2)$ $\underline{W}_I(u) = \underline{W}_e(N/2 - \Delta u)$
$u=0, 1, \dots, N-1$				
$u = 0$ $u = 1 \text{ to } N/2-1$ $u = N/2$ $u = N/2 + \Delta u$ for $\Delta u=1 \text{ to } N/2-1$			$\underline{W}_R(u) = \underline{W}_e(0)$ $\underline{W}_R(u) = \underline{W}_e(u)$ $\underline{W}_R(u) = \underline{W}_o(N/2)$ $\underline{W}_R(u) = \underline{W}_o(N/2 - \Delta u)$	

FIG. 6D in the amendment drawings is added to help explain FIG. 6A.

FIG. 6D Hybrid Walsh: Cellular Transmitter Implementation

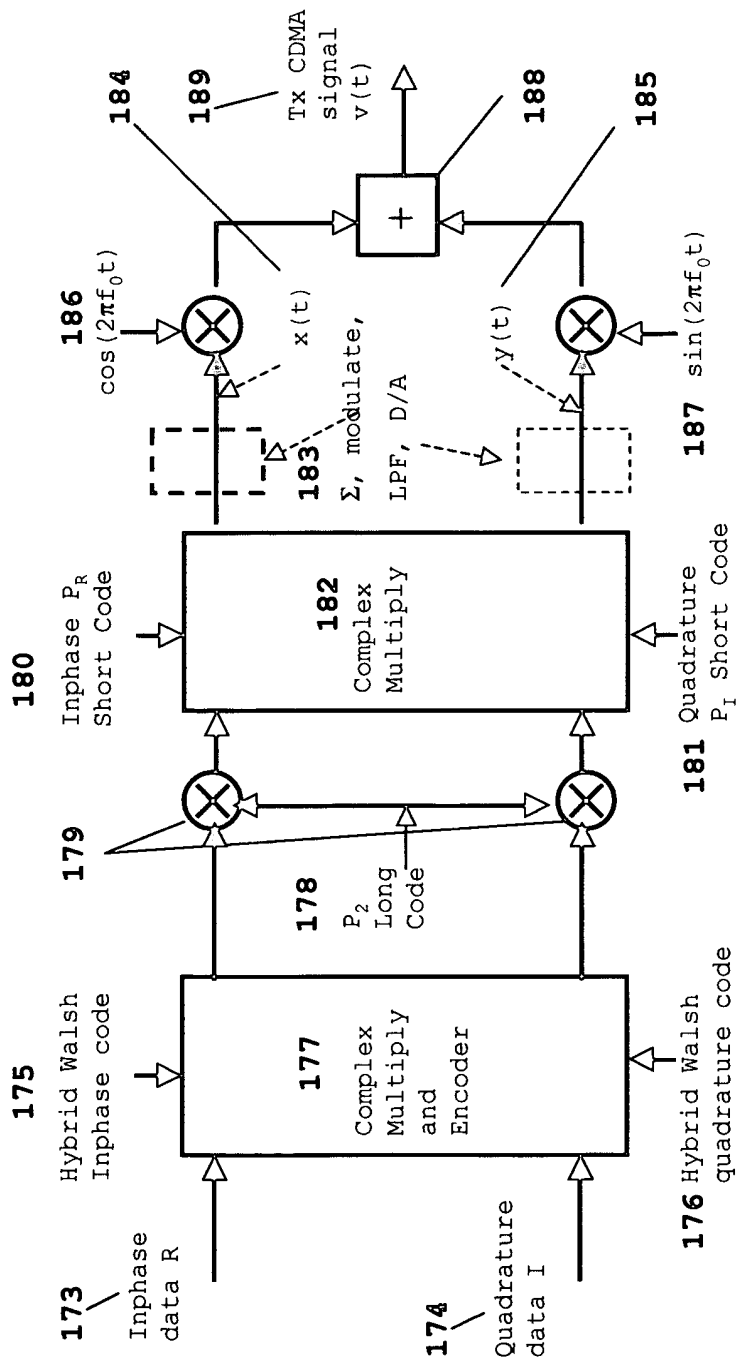


FIG. 7A in the amendment drawings is FIG. 7 in the original submittal.



FIG. 7A Hybrid Walsh CDMA Decoding Implementaion

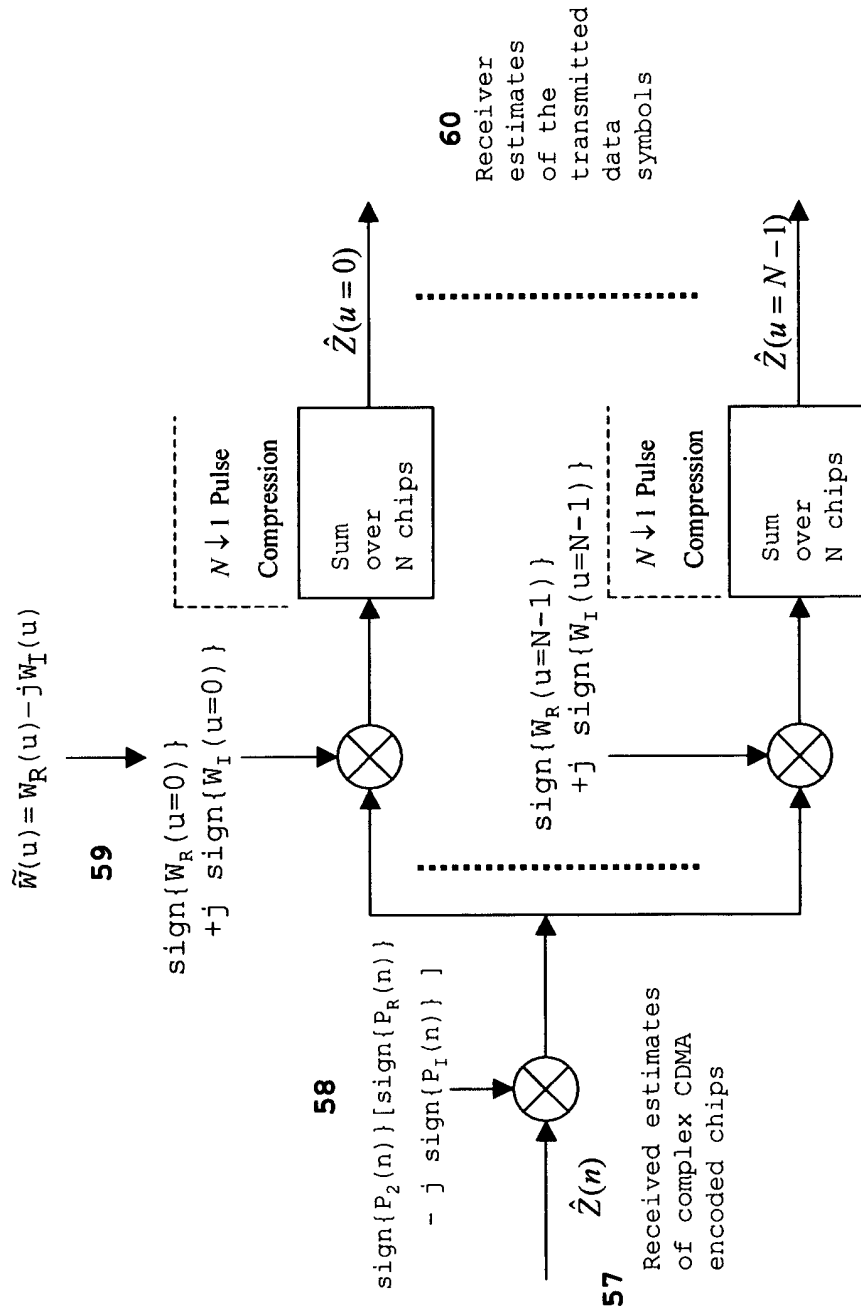


FIG. 7B in the amendment drawings is added to help explain FIG. 7A.

**FIG. 7B Hybrid Walsh: Cellular Receiver Implementation**

